

WHAT IS CLAIMED IS:

1. A response characteristic estimation apparatus,
including:

an input unit which inputs a received signal;

a correlation processor which performs a correlation
processing between the received signal which has been
inputted and a known transmission signal;

a phase error estimator which estimates a phase error
of the received signal, which has been inputted, to the
known transmission signal based on the received signal which
has been inputted and the known transmission signal; and

a phase error compensator which estimates response
characteristic of the received signal, which has been
inputted, to the known transmission signal by compensating a
result of the correlation processing based on the estimated
phase error.

2. A response characteristic estimation apparatus according
to Claim 1, wherein the known transmission signal is
included in a prescribed interval in the received signal in
a sequential manner, and wherein the apparatus further
includes a controller which detects an end of the sequential
interval of the known transmission signal from the received
signal which has been inputted, and the phase error
compensator compensates the result of the correlation

processing based on the estimated phase error at the detected end.

3. A response characteristic estimation method, including:

inputting a received signal;

performing a correlation processing between the received signal which has been inputted and a known transmission signal;

estimating a phase error of the received signal, which has been inputted, to the known transmission signal based on the received signal which has been inputted and the known transmission signal; and

estimating response characteristic of the received signal, which has been inputted, to the known transmission signal by compensating a result of the correlation processing based on the estimated phase error.

4. A response characteristic estimation method according to Claim 3, wherein the known transmission signal is included in a prescribed interval in the received signal in a sequential manner, and wherein the method further includes detecting an end of the sequential interval of the known transmission signal from the received signal which has been inputted, and in estimating the response characteristic of the received signal, which has been inputted, to the known transmission signal, the result of the correlation

processing is compensated based on the estimated phase error at the detected end.

5. A computer program executable by a computer, including:

inputting a received signal;

performing a correlation processing between the received signal which has been inputted and a known transmission signal;

estimating a phase error of the received signal, which has been inputted, to the known transmission signal based on the received signal which has been inputted and the known transmission signal; and

estimating response characteristic of the received signal, which has been inputted, to the known transmission signal by compensating a result of the correlation processing based on the estimated phase error.

6. A computer program according to Claim 5, wherein the known transmission signal is included in a prescribed interval in the received signal in a sequential manner, and wherein the program further includes detecting an end of the sequential interval of the known transmission signal from the received signal which has been inputted, and in estimating the response characteristic of the received signal, which has been inputted, to the known transmission signal, the result of the correlation processing is

compensated based on the estimated phase error at the detected end.

7. A receiver, including:

an input unit which inputs a plurality of received signals respectively;

a correlation processor which performs correlation processings respectively between each of the plurality of received signals which have been inputted and a known transmission signal;

a phase error estimator which estimates a phase error of at least one of the plurality of received signals, which have been inputted, to the known transmission signal based on at least one of the plurality of received signals, which have been inputted, and the known transmission signal;

a phase error compensator which generates a plurality of weighting coefficients by compensating respectively a plurality of results of the correlation processings based on the estimated phase error; and

a synthesizing unit which performs multiplications in a manner that the plurality of received signals which have been inputted respectively correspond to the plurality of weighting coefficients and synthesizes results of the multiplications.

8. A receiver according to Claim 7, wherein the phase error

estimator estimates a conclusive phase error again by respectively estimating the phase error of each of the plurality of received signals, which have been inputted, to the known transmission signal based on the plurality of received signals, which have been inputted, and the known transmission signal and by averaging the estimated plurality of phase errors.

9. A receiver according to Claim 7, wherein the known transmission signal is included in a prescribed interval of the received signal in a sequential manner, and wherein the receiver further includes a controller which detects an end of the sequential interval of the known transmission signal from the plurality of received signals which have been inputted, and the phase error compensator respectively compensates the plurality of results of the correlation processings based on the estimated phase errors at the detected end.

10. A receiving method, including:

inputting a plurality of received signals
respectively;

performing correlation processings respectively
between each of the plurality of received signals which have
been inputted and a known transmission signal;

estimating a phase error of at least one of the

plurality of received signals, which have been inputted, to the known transmission signal based on at least one of the plurality of received signals, which have been inputted, and the known transmission signal;

generating a plurality of weighting coefficients by compensating respectively a plurality of results of the correlation processings based on the estimated phase error; and

synthesizing results of multiplications, wherein the multiplications are performed in a manner that the plurality of received signals which have been inputted respectively correspond to the plurality of weighting coefficients.

11. A receiving method according to Claim 10, wherein, in estimating the phase error of at least one of the plurality of received signals, which have been inputted, to the known transmission signal, a conclusive phase error is estimated again by respectively estimating the phase error of each of the plurality of received signals, which have been inputted, to the known transmission signal based on the plurality of received signals which have been inputted and the known transmission signal and by averaging the estimated plurality of phase errors.

12. A receiving method according to Claim 10, wherein the known transmission signal is included in a prescribed

interval of the received signal in a sequential manner, and wherein the method further includes detecting an end of the sequential interval of the known transmission signal from the plurality of received signals which have been inputted and in generating the plurality of weighting coefficients, the plurality of results of the correlation processings is respectively compensated based on the estimated phase errors at the detected end.

6

13. A program executable by a computer, including:

inputting a plurality of received signals respectively;

performing correlation processings respectively between each of the plurality of received signals which have been inputted and a known transmission signal;

estimating a phase error of at least one of the plurality of received signals, which have been inputted, to the known transmission signal based on at least one of the plurality of received signals, which have been inputted, and the known transmission signal;

generating a plurality of weighting coefficients by compensating respectively a plurality of results of the correlation processings based on the estimated phase error; and

synthesizing results of multiplications, wherein the multiplications are performed in a manner that the plurality

of received signals which have been inputted respectively correspond to the plurality of weighting coefficients.

14. A program according to Claim 13, wherein, in estimating the phase error of at least one of the plurality of received signals, which have been inputted, to the known transmission signal, a conclusive phase error is estimated again by respectively estimating the phase error of each of the plurality of received signals, which have been inputted, to the known transmission signal based on the plurality of received signals which have been inputted and the known transmission signal and by averaging the estimated plurality of phase errors.

15. A program according to Claim 13, wherein the known transmission signal is included in a prescribed interval of the received signal in a sequential manner, and wherein the program further includes detecting an end of the sequential interval of the known transmission signal from the plurality of received signals which have been inputted and, in generating the plurality of weighting coefficients, the plurality of results of the correlation processings is respectively compensated based on the estimated phase errors at the detected end.